

REMARKS

Claims 7-20 are all the claims pending in the application; each of the claims has been rejected.

Claims 7, 8, 11-14, 16 and 17 have been amended such that the micro arrays recited in the claims consist essentially of a stimuable phosphor layer provided on a substrate, or a stimuable phosphor layer provided on a substrate and a protective layer provided on said stimuable phosphor layer.

Claims 7, 8, 11-14, 16 and 17 have also been amended to state that the location of the biomolecules and detecting bodies on or within the phosphor layer is known. Support for the amendment may be found at page 16, lines 15-18

No new matter has been added. Entry of the amendment is respectfully requested.

I. New Matter Rejection

At paragraph 3 of the Office Action, the amendment to the claims filed November 12, 2002, is objected to as allegedly introducing new matter into the disclosure.

The Examiner asserts that the phrase "known configuration" introduced into claims 7, 8, 11-14, 16 and 17 is not supported by the original disclosure, as the phrase would encompass the three-dimensional characteristics of the biomolecules and the array.

In response, Applicant asserts that the skilled artisan would understand that "known configuration" means "known location." However, to advance the prosecution of this application, included herewith is an amendment to the claims such that the phrase "known configuration" has been deleted from the cited claims. In view of this amendment, Applicant respectfully requests reconsideration and withdrawal of this rejection.

II. Rejection of Claims Under 35 U.S.C. §112

At paragraph 5 of the Office Action, claims 7, 8, 11-14, 16 and 17 are rejected as lacking adequate written description support in the specification.

The Examiner contends that the specification does not support the amendment to the claims to recite "known configuration."

As discussed above, Applicant includes herewith an amendment to the claims such that the phrase "known configuration" has been deleted from the cited claims. In view of the amendment to the claims, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Applicant also notes that in paragraph 5 of the Office Action, the Examiner proposes an acceptable amendment to the claims, related to the issue of the location of the biomolecules on the phosphor layer. The Examiner suggests that the claims be amended to define the location of the biomolecules, such as through the introduction of the phrase "wherein which biomolecule is located at which site on the array is known" into the claims.

Applicant thanks the Examiner for the helpful suggestion and have amended the claims essentially in accordance with the Examiner's suggestion to state "wherein the location of each selected biomolecule [or detecting body] in said series, on or within said phosphor layer [or protective layer], is known." Applicant asserts that this amendment to the claims is fully supported by the specification (e.g., page 16, lines 15-18) and that the claims now clearly indicate that the physical location of the biomolecules (or detecting bodies) on the array is known.

III. Rejection of Claims Under 35 U.S.C. §102

At paragraph 7 of the Office Action, claims 7, 8, 10, and 13-15 are rejected under 35 U.S.C. §102(b) as being anticipated by Shiraishi et al. (USP 4,617,468).

The Examiner states that the claims are given their broadest reasonable interpretation, and that the phrase “affixed on or within” the phosphor layer encompasses a “macro array” as stated at page 1, lines 14-16, of the pending application.

The Examiner further states that the term “on,” as it pertains to the phrase “on or within said phosphor layer,” does not limit the claim to biomolecules “directly contacting” or “attached to” the phosphor layer. The Examiner broadly interprets the word “on” to include biomolecules that are dispersed in a support medium (e.g., gel matrix) that is “on” the phosphor layer. It is the Examiner’s position that after the biomolecules are separated, and a labeled probe is added, Shiraishi et al. teach an array as claimed.

In response, Applicant includes herewith an amendment to the claims such that the microarrays of the claims are recited as consisting essentially of a stimutable phosphor layer on a substrate, or a stimutable phosphor layer on a substrate with a protective layer provided on the phosphor layer. Thus, the microarrays no longer encompass components that have a material effect on the basic and novel characteristics of the invention, such as would the support medium (gel matrix) used in Shiraishi et al. The support medium of Shiraishi et al. contains the biomolecules, whereas the phosphor layer or the protective layer of the instant invention contains the biomolecules.

Applicant also notes that Shiraishi et al clearly states that the support medium is different from a protective layer on the phosphor sheet (see, e.g., Figure 4 and the description thereof at column 6 of the patent).

As the claims of the present application exclude the support medium of Shiraishi et al., the microarray of the present application is not anticipated by the disclosure of Shiraishi et al. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

IV. Rejection of Claims Under 35 U.S.C. §103

A. At paragraph 10 of the Office Action, claims 11, 12 and 16-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shiraishi et al. in view of Davis et al.

The Examiner states Shiraishi et al. teaches the method recited in the rejected claims, with the exception of teaching the labeling of a fixed biomolecule by hybridization with a labeled biomolecule. The Examiner contends that Davis et al. supplies the missing element of Shiraishi et al. and that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings for the expected benefit of reduced biohazard risk and increased biomolecule-specific detection.

In response, Applicant refers to the comments above concerning the amendment to the claims to exclude other elements from the microarray recited in the claims, such as the support medium disclosed by Shiraishi et al. As the claims exclude the support medium from being included in the microarray, Shiraishi et al. does not teach the instantly claimed invention. Nor does Davis et al. teach the microarray of the present invention or cure the defects of Shiraishi et al. As neither Shiraishi et al. or Davis et al., alone or in combination, teach or suggest the

microarray as set forth in the amended claims, Applicant asserts that the claims are not obvious over these two publications.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

B. At paragraph 12 of the Office Action, claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Shiraishi et al. in view of Heller et al.

The Examiner states Shiraishi et al. teaches the microarray recited in the rejected claim, with the exception of a protective layer comprising poly-l-lysine. The Examiner asserts that Heller et al. teaches the use of poly-l-lysine, and that it would have been obvious to combine the two disclosures to arrive at the present invention.

In response, Applicant refers to the comments above concerning the amendment to the claims to exclude other elements from the microarray recited in the claims, such as the support medium disclosed by Shiraishi et al. As the claims exclude the support medium from being included in the microarray, Shiraishi et al. does not teach the instantly claimed invention. Nor does Heller et al. teach the microarray of the present invention or cure the defects of Shiraishi et al. As neither Shiraishi et al. or Heller et al., alone or in combination, teach or suggest the microarray as set forth in the amended claims, Applicant asserts that the claims are not obvious over these two publications.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

C. At paragraph 14 of the Office Action, claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Shiraishi et al. in view of Davis et al., as applied to claim 12, and further in view of Heller et al.

The Examiner states Shiraishi et al. teaches the method recited in the rejected claim, with the exception of a protective layer comprising poly-l-lysine. The Examiner asserts that Heller et al. teaches the use of poly-l-lysine, and that it would have been obvious to combine the two disclosures to arrive at the present invention.

The Examiner also states that while Shiraishi et al. fails to teach the labeling of a fixed biomolecule by hybridization with a labeled biomolecule, Davis et al. supplies the missing element and that it would have been obvious to combine the teachings of the two disclosures to arrive at the present invention.

In response, Applicant refers to the comments above concerning the amendment to the claims to exclude other elements from the microarray recited in the claims, such as the support medium disclosed by Shiraishi et al. As the claims exclude the support medium from being included in the microarray, Shiraishi et al. does not teach the instantly claimed invention. Nor does Heller et al. or Davis et al. teach the microarray of the present invention or cure the defects of Shiraishi et al. As none of Shiraishi et al., Heller et al. or Davis et al., alone or in any combination, teach or suggest the microarray as set forth in the amended claims, Applicant asserts that the claims are not obvious over these three publications.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 09/624,395

Q58690

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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